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Serial No : 10/037,089
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Filed : November 9, 2001
For : KEY SWITCH
Art Unit : 2832
Examiner : Marina Fishman
Dated : April 16, 2003

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REQUEST FOR RECONSIDERATION
UNDER 37 CFR 1.116 EXPEDITED PROCEDURE

In response to the Final rejection dated February 11, 2003, Applicant provides the following remarks indicating the allowability of the present claims.

REMARKS

Claims 7 - 16 have been rejected as being anticipated by Kenmochi.

The independent claims set forth a U-shaped bridging member. Applicant thanks the Examiner for indicating that element 1c in Kenmochi is equated with the U-shaped bridging member of the present claims.

Claim 10 sets forth a plurality of key tops arranged in a key plane. The embodiment of present Fig. 2, is a top view of two key tops, where the two key tops are arranged in a key plane that is the same as the plane of the drawing sheet. Fig. 4 also shows two key tops

arranged in a key plane, where the key plane is in the plane of the drawing sheet. Fig. 3 is a cross-sectional side view of two key tops arranged in a key plane, where the key plane extends to the right and left of the sheet, and in and out of the sheet.

Applicant has reviewed Kenmochi, and notes that the figures of Kenmochi do not show a plurality of key tops. Applicant notes that it might be possible to use the teachings of Kenmochi to form a plurality of key tops. From Applicant's understanding of Kenmochi, it appears that a plurality of key tops such as those in Fig. 4 of Kenmochi, would extend to the right and left of Fig. 4a, and in and out of the page of Fig. 4a.

Claim 11 also sets forth that a U-shaped bridging member is arranged in a bridge plane substantially parallel to the key plane. In the embodiment of present Figs. 2 and 4, the U-shaped bridging member is represented by reference 3. As one can see from Figs. 2 and 4, the U-shaped bridging member 3 is in a plane that is parallel to the plane of the drawing sheet. As described previously, the key plane as shown in Figs. 2 and 4 is also parallel to the plane of the drawing sheet. Therefore the embodiment of Figs. 2 and 4, clearly show a U-shaped bridging member arranged in a bridge plane substantially parallel to the key plane.

Applicant has reviewed element 1c of Kenmochi which has been equated with the U-shaped bridging member of the present claims. From Applicant's understanding of Kenmochi, it appears that any U-shape that element 1c would have, would have the base of the U-shape arranged upwards, and legs of a U-shape extending downwards. It appears then that any such U-shape would therefore be in the plane of Fig. 4. As Applicant has described above, any key plane in Fig. 4 would extend into and out of the page, and to the right and left of the page.

Therefore it is Applicant's position that element 1c of Kenmochi is not arranged in the plane substantially parallel to a key plane. Element 1c of Kenmochi therefore does not have all of the features of the U-shaped bridging member of claim 11. Claim 11 therefore sets forth features which are not anticipated by Kenmochi. Claim 11 therefore defines over Kenmochi.

Claim 12 depends from claim 11 and further sets forth that a U-shape of the U-shaped bridging member is arranged in the bridge plane. Applicant notes that a U-shape has a base and legs, and therefore if a U-shape is in a plane, the base and the legs are in that same plane. From Applicant's review of element 1c in Kenmochi, Applicant does not find any teaching nor suggestion of a U-shape of element 1c to be in a bridge plane, especially a bridge plane which is substantially parallel to a key plane. Claim 12 therefore further defines over Kenmochi.

Claim 11 sets forth a plurality of extruded parts formed integrally with the plurality of key tops. Claim 13 indirectly depends from claim 11 and sets forth that ends of the legs of the U-shape are connected to the extruded parts. Applicant's review of element 1c in Kenmochi, does not find ends of legs of any U-shape connected to extruded parts which are integral with key tops. Instead it appears that any legs of element 1c of Kenmochi are either part of element 1b or part of element 1a. Element 1b is clearly not a key top. It appears that only a base of any U-shape of element 1c would be connected to a key top. Since Kenmochi does not teach nor suggest ends of legs of element 1c being connected to key tops, element 1c therefore does not have all of the features of the U-shaped bridging member of the present claims. Claim 13 therefore further defines over Kenmochi.

Claim 14 sets forth that the U-shaped bridging member connects two extruded parts.

Applicant notes that element 1c of Kenmochi does not connect two extruded parts, especially not two extruded parts which are integral with key tops. Instead it appears that element 1c of Kenmochi connects to element 1b which is not described as a key top, but instead is described as a non-operating portion. Since element 1c of Kenmochi does not connect two extruded parts, especially extruded parts integrally formed with a key top, claim 14 therefore further defines over Kenmochi.

Claim 15 sets forth a type of connection between the extruded parts and the bridging member. In particular the connection between the extruded parts and the bridging member is a connection that is formed by injection molding thermoplastic elastomer. The process of injection molding thermoplastic elastomer forms a specific type of connection between the extruded parts and the bridging member. It is this type of connection that Applicant is seeking patent protection for in claim 15.

The rejection states that a method step recitation in the article claimed does not carry any patentable weight. Applicant notes the method step recitation in claim 15 sets forth a specific type of structure, namely a specific type of connection. Therefore even if the method step is not given any patentable weight, the resulting structure of the connection formed by the method step should be considered.

Applicant also wishes to point out, that to the extent any process limitations distinguish a product over the prior art, such process limitations must be given the same consideration as traditional product characteristics. In the present case, Applicant has highlighted a specific type of structural connection between the extruded parts and the bridging member. These features

of the invention (whether categorized as process or structure), must be considered. See *In Re Luck and Gainer*, 476 F.2d 650, 177 USPQ 523 (CCPA 1973).

Applicant has reviewed Kenmochi, and finds no teaching nor suggestion of extruded parts and a bridging member which is integrated with a key top by injection molding a thermoplastic elastomer. Applicant notes that the abstract of Kenmochi indicates that an operating portion made of thermoplastic elastomer is fixed to the underside of the key top by means of a transparent adhesive. Therefore the connection between the extruded parts and the key tops of claim 15 is a much different type of connection than between an operating portion and a key top in Kenmochi. Since the structural relationship between the extruded parts and the key tops in claim 15 is different from the relationship of the operating portion and the key top of Kenmochi, claim 15 sets forth structure which is not anticipated by Kenmochi. Claim 15 therefore further defines over Kenmochi.

Independent claim 7 also sets forth a plurality of extruding parts where the extruding parts are formed integrally with the plurality of key tops. Claim 7 then sets forth a U-shaped bridging member integrally linking the extruding parts.

Applicant has reviewed Kenmochi, and notes that element 1c of Kenmochi does not integrally link extruding parts which are formed integrally with a plurality of key tops. Instead element 1c of Kenmochi appears to link operating portion 1a and non-operating portion 1d. Applicant notes that non-operating portion 1b is not formed integrally with a key top. Therefore element 1c of Kenmochi does not anticipate all of the features of the U-shaped bridging member set forth in claim 7. Claim 7 therefore also defines over Kenmochi.

Independent claim 8 also sets forth extruding parts integrally formed with key tops and where the extruding parts are integrally linked by a U-shaped bridging member. As described above, element 1c of Kenmochi does not link extruding parts which are integrally formed with key tops. Therefore Kenmochi does not anticipate all of the features of the U-shaped bridging member of claim 8. Claim 8 therefore also defines over Kenmochi.

Claims 9, 10 and 13 set forth that a back of the U-shaped bridging member or the base of the U-shaped bridging member is connected to a housing. Applicant has reviewed element 1c of Kenmochi, and finds no teaching nor suggestion that a base or a back of any U-shape formed by element 1c is connected or attached to a housing. Claims 9, 10 and 13 therefore further define over Kenmochi.

Kenmochi relates to a different field or problem than the present invention. Applicant notes that in Kenmochi, since the non-operating portion is formed around the outer periphery of the operating portion through thin skirt portions, intervals between the key tops cannot be narrowed, and miniaturization of the key pad is limited. The requirement in Kenmochi for the non-operating portion and the skirt to be around the keys, limits how close together a plurality of keys can be arranged. It appears that Kenmochi is not concerned with miniaturization of a plurality of keys, or even of providing a plurality of keys. Therefore Kenmochi leads a person of ordinary skill in the art towards applications where miniaturization is not desired, or only one key is desired.

The present invention on the other hand relates to applications where a plurality of keys are desired, and it is desired that those plurality of keys be spaced very close to each other.

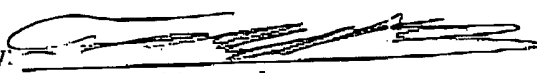
With the U-shaped bridging member of the present invention, it is possible to have a plurality of keys, and to have those keys be spaced very close to each other. Furthermore, all of this is possible without the pressing of one key causing activation of adjacent keys.

Also by the present invention connecting the key tops with the extruded parts by injection molding, a very efficient and reliable connection is formed. In Kenmochi, as described in the background portion of the present specification, the key top and key pad are separately formed and then bonded to each other by means of adhesive. Therefore, the key tops are fixed, one-by-one to the key pads by means of the adhesives. Such a manufacture of a switch requires much time and trouble in Kenmochi. The present invention is an improvement over Kenmochi, in that an easier connection is formed. It is Applicant's position that the present invention is an improvement over Kenmochi because the present invention is easier to form and can be miniaturized, and therefore worthy of patent protection.

If the Examiner has any comments or suggestions which would further favorable prosecution of this application, the Examiner is invited to contact Applicant's representative by telephone to discuss possible changes.

At this time Applicant respectfully requests reconsideration of this application, and based on the above amendments and remarks, respectfully solicits allowance of this application.

Respectfully submitted
For Applicant,

By: 
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